## 2022 9th International Power Electronics Systems and Applications (PESA)

## Title

**Self-organized wireless power transfer network for group electronics devices application**

## Abstract

With rapid growth of consumer electronics, wireless charging is getting more and more acceptance for applications, such as, mobile phone, watch, earphone and kitchen devices, etc. The applications can be also extended to household appliances, where a large number of devices require wireless power connections. However, the wireless charging applications at present are mostly designed for individual point-to-point charging, while a wireless charging system that is able to simultaneously charge multiple devices in a large area is always desired.

This speech presents Wireless Power Transfer Networks (WPTNs) solutions to develop a flexible, effective wireless power connection between a group of devices. In this network, each device presents as a wireless power node, which have multiple modes including power supply, repeater, receiver node, and decoupling node if necessary. The operating mode of the node is reconfigurable that can switch freely between different mode according to the dynamic change in the power transfer requirements.

## Brief Bio



**Dai Xin.** Professor, Ph.D. on Control theory and engineering. He received his B.S. in Industrial Automation from Yuzhou University, Chongqing, China, in 2000. He received his Ph.D. in Control Theory and Control Engineering from the School of Automation, Chongqing University, Chongqing, China, in 2006. In 2012, he was a Visiting Scholar inThe University of Auckland, New Zealand.

His research interests include wireless power transmission technology and power electronic nonlinear control. At present, he is the deputy director of the National Joint Research Center for Wireless Power Transfer Technology of China and general secretary of Wireless Power Transfer committee of China Power Supply Society, expert member of the China Energy Society. He was selected as an excellent talent support program for Chongqing Higher Education Institutions. he has been in charged of 3 projects of the National Natural Science Foundation of China, 2 Chongqing International Cooperation Platform Projects, 2 Chinese Postdoctoral Funds. He was awarded the second prize on technical invention from Chongqing government (ranked 1st), and the second prize science and technology progress from the Ministry of Education (ranked 2nd), the second prize on Science and Technology Progress Award from China Power Supply Society (ranked 1st). He owns 57 China patents on Wireless Power Transfer technology and has published more than 100 SCI/EI indexed papers.